

ABSTRACT OF THE DISCLOSURE

123        Circuitry for transmitting signals through a transformer has an output transistor and circuitry which provides a controlled current to and from the output transistor's gate, so as to charge and discharge the gate's parasitic capacitance and increase and decrease the transistor's output current in a controlled manner. Feedback can be used to sense an output signal created by the transistor and turn off current to or from the transistor's gate when the output signal has reached a desired level. The output signal can be the voltage differential produced across an output transformer, and, where the output transformer is center-tapped, it can be the voltage differential across both halves of the center tapped winding. A transmitter circuit, which can be substantially monolithic, includes two pairs of output connections, a first for driving a center tapped transformer and a second for driving a bridge transformer. Each connection of the first pair has circuitry for electrically isolating it from the transmitter circuitry during a different part of the output signal, whereas the connections of the second pair do not. In either a transmitter or a receiver, two inputs connected across a transformer can each be connected through resistances to virtual ground nodes generated by operational amplifiers, so as to isolate input circuitry from transformer voltage swings. Transmitter circuitry can include circuitry that measures an output transistor's output current and turns off the output transistor if that current flow it exceeds a given level.

\*\*\*\*\*